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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,792	11/24/2003	Feng-Wei Chen Russell	RSW920030187US1	5419

			EXAMINER
23550	7590	06/07/2006	TRUONG, CAM Y T

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ART UNIT	PAPER NUMBER
2162	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/720,792	RUSSELL ET AL.
	Examiner	Art Unit	
	Cam Y T. Truong	2162	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date 11/24/03

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-32 are pending in this Office Action.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-4, 6-9, 11-12, 14-15, 17, 19, 21-24, 26-31 are rejected under 35 U.S.C.

103(a) as being unpatentable over Thearling (US 6240411) in view of Mani et al (or

hereinafter "Mani") (US 6677963).

As to claims 1 and 21, Thearling teaches the claimed limitations:

" computerized data mining system" as (fig. 12);

" a data exploration system for receiving and analyzing user data to provide

statistical information about the user data" as an application system for analysis and

selection of stored information in a database. The database contains records

correspond to individuals, the individual's age, address, and income. The database is

provided that includes both training data and test data. The training data is provided to

a model builder 14 for computing a probability, e.g., a probability that a customer would

respond favorably to a mailing. The above information shows that the system analyzes

the customer data to provide probability as statistical about the customer data (col. 1,

lines 33-34, lines 60-65; col. 2, lines 1-23);

"a customized model system for generating and ranking customized data mining

models" as ranking models indicates that models are generated for ranking (col. 9, lines

40-43; col.13, lines 35-40), and

"for executing a selected customized data mining model on the user data" as one

of the models within the query is selected for evaluation (col. 13, lines 35-36),

"wherein the customized data mining models are iteratively generated in parallel

based on permutations of at least one of the user data, business parameters and a set

of model generation algorithms" as regenerate and run the models against one or more

records in a database in parallel not based on permutations of at least one of the user

data, business parameters and a set of model generation algorithms (col. 8, lines 25-

30);

"an existing model system for selecting at least one existing data mining model

from a library of existing data mining models" as selecting one of the models from the

model library 78 of existing models (col. 9, lines 40-43; col. 10, lines 61-62), and

"for executing the selected at least one existing data mining model in parallel on the

user data" as run the model against one or more records in a database. All models are

run against the entire database, which includes records about customer data. The

above information shows that the selected models are executed in parallel on the

customer data (col. 11, lines 19-22; col. 8, lines 25-30; col. 1, lines 40-45).

Thearling does not explicitly teach the claimed limitation "based on permutations

of at least one of the user data, business parameters and a set of model generation

algorithms". Mani teaches a model manipulation system allows a user to manipulate

the generated mode. A model in the form of decision rules is received from data mining

tool such as a set of rule induction algorithm. Each time a user changes the model e.g.,

resorting rules of model, the model manipulation system has computed the specified

business metrics for a model. A set of rule induction algorithms is presented as a set of

model generation algorithms   (col. 2, lines 60-67; col. 3, lines 60-65; col. 6, lines 39-

40).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Mani's teaching of a model manipulation system allows

a user to manipulate the generated mode. A model in the form of decision rules is

received from data mining tool such as a rule induction algorithm. Each time a user

changes the model e.g., resorting rules of model, the model manipulation system has

computed the specified business metrics for a model to Thearling's system in order to

allow a user to manipulate a model to reflect domain knowledge and other information

related to a relevant business problems or situation. Therefor, models generated within

this process necessarily reflect a relevant business problem and incorporate business

context (col. 3, lines 65-67; col. 4, lines 1-5).

As to claims 2 and 22, Thearling teaches the claimed limitation "a data

submission system for submitting the user data" as a database includes one or more

tables, with rows of the table corresponding to individual records. The above

information shows that the individual records had submitted to the system for storing in

a database (col. 1, lines 18-20).

Thearling does not explicitly teach the claimed limitation "a parameter designation system for designating the business parameters".

Mani teaches the tool computes specified business metrics representing business measures of quality reflected by the model. The model parameters may be manipulated by a user. Each time parameters of a model change, the business metrics are re-computed, thereby promoting directed data understanding by allowing a user to immediately see the impact of any changes made (abstract).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Mani's teaching of The model parameters may be manipulated by a user. Each time parameters of a model change, the business metrics are re-computed to Thearling's system in order to promote directed data understanding by allowing a user to immediately see the impact of any changes made.

As to claim 3, Thearling teaches the claimed limitations:

"a model generation system for iteratively generating the customized data mining models in parallel based on the permutations of at least one of the user data, the business parameters and the set of model generation algorithms" as regenerate and run the models against one or more records in a database in parallel not based on permutations of at least one of the user data, business parameters and a set of model generation algorithms (col. 8, lines 25-30);

" a model ranking system for ranking the customized data mining models based

on the business parameters" as ranking models indicates that models are generated for

ranking (col. 9, lines 40-43; col.13, lines 35-40),

" for identifying a predetermined quantity of the ranked customized data mining

models" as a model score is greater than 0.5 that indicates the model score is identified

(col. 11, lines 40-45), and "for providing comparative data corresponding to the

predetermined quantity of the ranked customized data mining models" as consider a

simple query that requires only the Boolean operation AND of income greater than sixty

thousand dollars and a model score (col. 11, lines 40-45);

"a customized model selection system for selecting at least one customized

mining model from the predetermined quantity" as the campaign manager could

automatically select the order of models. The selection could be based, for example, on

the anticipated computation time for scoring an individual record. Thus, those models

that require less computation time may be selected before models, which require

greater computation time (col. 13, lines 35-43);

"a customized model execution system for executing the selected at least one

customized data mining model on the user data" as one of the models within the query

is selected for evaluation (col. 13, lines 35-36).

Thearling does not explicitly teach the claimed limitation "based on permutations

of at least one of the user data, business parameters and a set of model generation

algorithms". Mani teaches a model manipulation system allows a user to manipulate

the generated mode. A model in the form of decision rules is received from data mining

tool such as a set of rule induction algorithm. Each time a user changes the model e.g., resorting rules of model, the model manipulation system has computed the specified business metrics for a model. A set of rule induction algorithms is presented as a set of model generation algorithms   (col. 2, lines 60-67; col. 3, lines 60-65; col. 6, lines 39-40).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Mani's teaching of a model manipulation system allows a user to manipulate the generated mode. A model in the form of decision rules is received from data mining tool such as a rule induction algorithm. Each time a user changes the model e.g., resorting rules of model, the model manipulation system has computed the specified business metrics for a model to Thearling's system in order to allow a user to manipulate a model to reflect domain knowledge and other information related to a relevant business problems or situation. Therefor, models generated within this process necessarily reflect a relevant business problem and incorporate business context (col. 3, lines 65-67; col. 4, lines 1-15).

As to claims 4, 11, 24, 30 are rejected under the same reason as discussed in claim 19.

As to claims 23 and 28 recite the same limitations as referred to claim 3. Therefore, they are rejected under the same rational.

As to claims 6, 17 and 26, Thearling does not explicitly teach the claimed

limitation " wherein the statistical information comprises data relationships, data

outliners, invalid data values and standard deviations". Hofmann teaches

As to claims 7, 9, 27 and 29, Thearling teaches the claimed limitation "wherein

the computerized data mining system is implemented in a network environment" as (col.

2, lines 1-10).

As to claim 8, Thearling teaches the claimed limitations:

"a model generation system for iteratively generating the customized data mining

models in parallel based on the permutations of at least one of user data, business

parameters and a set of model generation algorithms" as regenerate and run the

models against one or more records in a database in parallel not based on permutations

of at least one of the user data, business parameters and a set of model generation

algorithms (col. 8, lines 25-30);

"a model ranking system for ranking the customized data mining models based

on the business parameters" as ranking models indicates that models are generated for

ranking (col. 9, lines 40-43; col.13, lines 35-40),

"for identifying a predetermined quantity of the ranked customized data mining

models" as a model score is greater than 0.5 that indicates the model score is identified

(col. 11, lines 40-45), and "for providing comparative data corresponding to the

predetermined quantity of the ranked customized data mining models" as consider a

simple query that requires only the Boolean operation AND of income greater than sixty

thousand dollars and a model score (col. 11, lines 40-45);

" for providing comparative data corresponding to the predetermined quantity of

the ranked customized data mining models" as regenerate and run the models against

one or more records in a database in parallel not based on permutations of at least one

of the user data, business parameters and a set of model generation algorithms (col. 8,

lines 25-30);

"a customized model selection system for selecting at least one customized

mining model of the customized data mining models" as regenerate and run the models

against one or more records in a database in parallel not based on permutations of at

least one of the user data, business parameters and a set of model generation

algorithms (col. 8, lines 25-30);

"a customized model execution system for executing the selected at least one

customized data mining model on the user data" as selecting one of the models from

the model library 78 of existing models (col. 9, lines 40-43; col. 10, lines 61-62), and

"for executing the selected at least one existing data mining model in parallel on the

user data" as run the model against one or more records in a database. All models are

run against the entire database, which includes records about customer data. The

above information shows that the selected models are executed in parallel on the

customer data (col. 11, lines 19-22; col. 8, lines 25-30; col. 1, lines 40-45).

Thearling does not explicitly teach the claimed limitation "based on permutations of at least one of the user data, business parameters and a set of model generation algorithms". Mani teaches a model manipulation system allows a user to manipulate the generated mode. A model in the form of decision rules is received from data mining tool such as a set of rule induction algorithm. Each time a user changes the model e.g., resorting rules of model, the model manipulation system has computed the specified business metrics for a model. A set of rule induction algorithms is presented as a set of model generation algorithms   (col. 2, lines 60-67; col. 3, lines 60-65; col. 6, lines 39-40).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Mani's teaching of a model manipulation system allows a user to manipulate the generated mode. A model in the form of decision rules is received from data mining tool such as a rule induction algorithm. Each time a user changes the model e.g., resorting rules of model, the model manipulation system has computed the specified business metrics for a model to Thearling's system in order to allow a user to manipulate a model to reflect domain knowledge and other information related to a relevant business problems or situation. Therefor, models generated within this process necessarily reflect a relevant business problem and incorporate business context (col. 3, lines 65-67; col. 4, lines 1-5).

As to claims 12 and 31, Thearling teaches the claimed limitation "wherein the at least one existing data mining model is executed on the user data in a grid environment" as (fig. 8).

As to claim 14, Thearling teaches the claimed limitations:

"providing user data and business parameters" as a database includes one or more tables, with rows of the table corresponding to individual records. The above information shows that the individual records had submitted to the system for storing in a database (col. 1, lines 18-20);

"iteratively generating a plurality of customized data mining models in parallel based on permutations of at least one of the user data, the business parameters and a set of model generation algorithms" as regenerate and run the models against one or more records in a database in parallel not based on permutations of at least one of the user data, business parameters and a set of model generation algorithms (col. 8, lines 25-30);

"ranking the plurality of customized data mining models based on the business parameters" as ranking models indicates that models are generated for ranking (col. 9, lines 40-43; col.13, lines 35-40), and;

"selecting at least one customized data mining model from the ranked plurality of customized data mining models"; a as selecting one of the models from the model library 78 of existing models (col. 9, lines 40-43; col. 10, lines 61-62), and

"executing the selected at least one customized data mining model on the user

data" as run the model against one or more records in a database. All models are run

against the entire database, which includes records about customer data. The above

information shows that the selected models are executed in parallel on the customer

data (col. 11, lines 19-22; col. 8, lines 25-30; col. 1, lines 40-45).

Thearling does not explicitly teach the claimed limitation "based on permutations

of at least one of the user data, business parameters and a set of model generation

algorithms". Mani teaches a model manipulation system allows a user to manipulate

the generated mode. A model in the form of decision rules is received from data mining

tool such as a set of rule induction algorithm. Each time a user changes the model e.g.,

resorting rules of model, the model manipulation system has computed the specified

business metrics for a model. A set of rule induction algorithms is presented as a set of

model generation algorithms   (col. 2, lines 60-67; col. 3, lines 60-65; col. 6, lines 39-

40).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Mani's teaching of a model manipulation system allows

a user to manipulate the generated mode. A model in the form of decision rules is

received from data mining tool such as a rule induction algorithm. Each time a user

changes the model e.g., resorting rules of model, the model manipulation system has

computed the specified business metrics for a model to Thearling's system in order to

allow a user to manipulate a model to reflect domain knowledge and other information

related to a relevant business problems or situation. Therefor, models generated within

this process necessarily reflect a relevant business problem and incorporate business context (col. 3, lines 65-67; col. 4, lines 1-5).

As to claim 15, Thearling teaches the claimed limitation "identifying a predetermined quantity of the ranked plurality of customized data mining models" as a model score is greater than 0.5 that indicates the model score is identified (col. 11, lines 40-45),

"providing comparative data corresponding to the predetermined quantity of the ranked plurality of customized data mining models, prior to the selecting step" as consider a simple query that requires only the Boolean operation AND of income greater than sixty thousand dollars and a model score (col. 11, lines 40-45).

A to claim 19, Thearling teaches the claimed limitations:

"providing user data and business parameters" as providing a database and other parameters as business parameters (col.1, lines 60-65; col. 2, lines 12-20);

" displaying the library of existing data mining models and comparative data corresponding to the library of data mining models" as displaying modes and comparing data corresponding to modes (fig. 8);

assembling a library of existing data mining models based on the business parameters" as executing models in the library not based on the business parameters (col. 9, lines 40-45);

"selecting at least one existing data mining model from the library of existing data

mining models" as one of the models within the query is selected for evaluation (col. 13,

lines 35-36),

" executing the at least one existing data mining model on the user data in

parallel" as run the model against one or more records in a database. All models are

run against the entire database, which includes records about customer data. The

above information shows that the selected models are executed in parallel on the

customer data (col. 11, lines 19-22; col. 8, lines 25-30; col. 1, lines 40-45).; and

" comparing results of the execution of the at least one existing data mining

model" as consider a simple query that requires only the Boolean operation AND of

income greater than sixty thousand dollars and a model score (col. 11, lines 40-45).

Thearling does not explicitly teach the claimed limitation "based on the business

parameters". Mani teaches a model manipulation system allows a user to manipulate

the generated mode. A model in the form of decision rules is received from data mining

tool such as a set of rule induction algorithm. Each time a user changes the model e.g.,

resorting rules of model, the model manipulation system has computed the specified

business metrics for a model. A set of rule induction algorithms is presented as a set of

model generation algorithms   (col. 2, lines 60-67; col. 3, lines 60-65; col. 6, lines 39-

40).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Mani's teaching of a model manipulation system allows

a user to manipulate the generated mode. A model in the form of decision rules is

received from data mining tool such as a rule induction algorithm. Each time a user

changes the model e.g., resorting rules of model, the model manipulation system has

computed the specified business metrics for a model to Thearling's system in order to

allow a user to manipulate a model to reflect domain knowledge and other information

related to a relevant business problems or situation. Therefor, models generated within

this process necessarily reflect a relevant business problem and incorporate business

context. The business metrics are represented as business parameters (col. 3, lines

65-67; col. 4, lines 1-5).

4.   Claims 5, 10, 13, 18, 20, 25 and 32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Thearling (US 6240411) in view of Mani et al (or hereinafter "Mani")

(US 6677963).

As to claims 5, 10, 13, 18, 20, 25 and 32, Thearling teaches the claimed

limitation "a set of model goals" as (fig. 10D). Thearling does not explicitly teach the

claimed limitation "wherein the business parameters comprise a business taxonomy, a

set of business problems"

Mani teaches business problems (col. 3, lines 65-67). Hofmann teaches the

automatic categorization of documents categorizes the data into existing taxonomies

(col. 17, lines 15-20).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Mani's teaching of business problem and Hofmann's

teaching of automatic categorization of documents categorizes the data into existing

taxonomies to Thearling's system in order to provide a set of categories of models along

with the relevant document information or business problem so that a user can

view/search the models easily in order.

5.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Thearling (US 6240411) in view of Mani et al (or hereinafter "Mani") (US 6677963) and

further in view of King Jr et al (or hereinafter "King") (US 20020042731).

As to claim 16, Thearling does not explicitly teach the claimed limitation

"iteratively generating a plurality of customized data mining models in a grid

environment based on the multiple permutations" as does not explicitly teach the

claimed limitation "forming multiple permutations of at least one of the user data, the

business parameters and the set of model generation algorithms; and".

King teaches Business strength may also depend on multiple factors, such as market

position, margin, technology position, size, growth potential, environmental record, etc.

The two axes, each divided into three gradations, define nine different permutations of

criteria within the grid itself. As such, the GE model is also referred to as

a 9-Blocker tool (or in a more general case, a multi-blocker tool) (paragraph [0116]).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply King's teaching of Business strength may also depend

on multiple factors, such as market position, margin, technology position, size, growth

potential, environmental record, etc. The two axes, each divided into three gradations,

define nine different permutations of criteria within the grid itself. As such, the GE

model is also referred to as a 9-Blocker tool to Thearling's system in order to provide a

correct model corresponding to business problem.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Chu et al (US 2002/0099581).
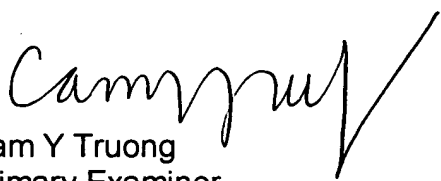
Kuntala et al (US 2003/0212691).

Chu et al (US 6920458).

Contact Information

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam Y T. Truong whose telephone number is (571) 272-4042. The examiner can normally be reached on Monday to Firday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cam Y Truong
Primary Examiner
Art Unit 2162
5/1/2006